STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF ENVIRONMENTAL CONTROL
WATER RESOURCES SECTION
89 KINGS HIGHWAY
P.O. BOX 1401
DOVER, DELAWARE 19903

TELEPHONE (302) 736-4761

TO: Wildcat File

FROM: John Barndt JB

SUBJECT: Modifications of the Wildcat Project Work Schedule and Justifications

DATE: September 11, 1985

Since the Wildcat Landfill RI/FS contract was signed between CH2M Hill, Inc. and the Delaware DNREC, clarifications of, and modifications to the work plan have occurred. These changes have resulted from better understanding of site conditions and additional technical information. The purpose of this report is to document these changes and provide justifications for them.

Changes to the work plan will undoubtedly occur throughout the remedial investigation as more and more site information become available. Updates will be appended to this report as changes to the work plan occur. The basic work plan is found in Attachment A of the Contract for Personal Services (CERCLA 86-1)

WORK PLAN MODIFICATIONS AND CLARIFICATIONS

Task 7. Mobilize Field Equipment

Some of the health and safety equipment and water monitoring/are to be provided by the Department. This includes two photoionization detectors, two explosimeter/oxygen meters, two radiation detectors, two dust monitors, three continuous water level recorders, a barometer, and a stream gauge.

Changes have been made:

1. Dust Monitors - The consultant has been asked to provide the two dust monitors originally to be supplied by the Department. The project account will be charged for use of these monitors.

   This change was made because of the high cost of these monitors and because they are not used within the Department. It is felt that it would be more economical to be charged a user fee by the consultant rather than for the Department to purchase them.

2. Barometric Data - Initially the Department was to supply a barometer for use at the site during the pump test. However, it has been found that the Dover Air Force Base continually monitors atmospheric conditions and will be able to provide this information on whatever time frequency we request. This information will be obtained by the state project officer and provided to the consultant.

Since the air base is within one mile of the Wildcat site, the barometric data would be acceptable.

3. Continuous Water-level Recorders/Stream Gauge - three continuous water-level recorders will be provided by the Department. Two of the recorders will be installed at observation wells during the pump test or as needed. One of the recorders will be used to gauge tidal fluctuations on the St. Jones River.

The details for the housing for the recorders will be worked out between the Department and the consultant. The details have not currently been addressed.

Task 8. Perform Baseline Survey

Currently contract language calls for a 100-foot interval grid to be surveyed at the Wildcat site. Some change has been made although additional clarifications is needed. The changes and concerns are:

1. Grid Interval - The grid interval has been enlarged from a 100-foot interval to a 200-foot interval.

It is felt that this will be more cost-effective while allowing accurate location of borings, trenching sites and sampling points.

2. Additional Surveying - The precise location of on-site borings, trenching sites, and sampling points may be needed. Therefore, the idea of accurately surveying these points will be explored.

This issue has not currently been addressed.

Task 10. Conduct Landfill Exploration

Changes within this task will be found in the Sampling Plan being prepared by the consultant. These changes are the result of refinements in the work plan, better understanding of field conditions, better definition of project goals, and laboratory analytical limitations. The changes to date are:

1. Landfill Shelby Tubes Samples - Ten Shelby tubes samples will be taken from each of the ten landfill borings at the base of the landfill. Originally these samples were to be analyzed for all of the physical and chemical analyses found in the sampling plan. This approach has been altered. Instead, the ten Shelby tube samples will be analyzed solely for the physical characteristics (laboratory permeability, specific gravity, porocity, and Atterberg limits). Ten split spoon samples will also be taken from these boreholes and delivered to DNREC laboratories for chemical analyses.

This change is the result of difficulty in handling Shelby tubes within the Department. This change allows all physical analyses (except grain size analyses) to be performed by a laboratory which does these tests on a routine basis. Additionally, the holding time for physical analyses is much greater than that for chemical analyses. This approach allows Shelby tubes to be held while the split spoon samples may be analyzed immediately.

The additional costs for outside laboratory services will be paid either from monies devoted to technical services or from consultant monies. The specifics have not yet been determined.

2. Grain Size Distribution - These analyses will be determined by the Department. The required equipment has been purchased by the Department and personnel within Technical Services will be trained in the procedures. An analysis sheet will be prepared as will a step-by-step instruction manual. The gradations to be used are dictated by the sieve sizes that have been purchased and these were based upon the Wentworth scale.

   The samples to be analyzed for grain size distribution will be the split spoon samples. The precise quantity of material required for analysis has yet to be determined.

3. Borehole Backfilling - The scope of services states that borings are to be backfilled to within one foot of the surface. However, DNREC regulations require that boreholes be backfilled to the surface. Therefore, the boreholes on the landfill are required to be backfilled to the surface.

4. Organic Matter Content - The OM content was initially required for all soil and sediment samples. It has been determined this test is inappropriate for the intent of these samples and has been eliminated from the list.

5. Total Organic Carbon - The TOC requirement has been deleted from the soil and sediment analyses since this technique is used for water samples.

6. pH - The pH is to be determined for soil and sediment samples in the laboratory using appropriate laboratory techniques.

7. RCRA Characteristics - Initially all RCRA characteristics were to be determined for waste samples. It has been determined that three of these tests (ignitability, corrosivity and reactivity) are not appropriate for a CERCLA investigation. Therefore, these three have been deleted from the laboratory requirements.

   However, EP Toxicity has been retained and will be performed on all waste samples.

8. TOC/Qualitative Organics Analysis - Both of these tests were initially required for waste samples. The TOC will not be performed due to its applicability to water samples. The qualitative organics analysis was never fully defined and has been eliminated.

Summarily, the tests required for the waste samples include EP Toxicity, specific gravity, water content and BTU content.

9. BTU Content - This requirement has been retained for the waste samples. DNREC laboratories cannot perform this analysis, therefore, an outside laboratory will be asked to perform this test.

Payment for this analysis may be done similarly to the Shelby tube physical analyses although this has yet to be determined.

Task 11. Hydrogeologic Investigation

The hydrogeologic investigation involves the drilling of numerous wells around the periphery of the landfill and drilling of one deep well which will serve as the pumping well. Because of the geologic complexity which will be encountered, and since there is no actual on-site hydrogeolic information, this task must remain necessarily flexible. Actual drilling depths can only be estimated until drilling has begun.

Certain changes have been made to the original work plan and these apply to the sampling to be done in these wells.

1. Deep Well Shelby Tube Samples - Five Shelby tube samples are scheduled to be taken from the deep well. The purpose of these samples is to define the physical properties of the confining bed. Therefore, four of the Shelby tube samples are to be taken as drilling commenses through the confining sequence(s). The fifth Shelby tube will be taken at the bottom of the deep well.

2. Intermediate Monitor Well Shelby Tube Samples - One Shelby tube sample will be taken from the confining bed at the bottom of each of the intermediate monitor wells around the periphery of the site.

Task 12. Perform Surface Water and Stream Sediment Sampling

1. Sampling Point Selection - EPA Involvement - At least eight sediment and eight surface water samples are scheduled to be collected by the Department at locations identified by the contractor. The regional EPA project officer has expressed interest in these sampling locations.

The entire sampling plan will be presented to the EPA project officer for comment and approval. Additionally, EPA involvement in the process of selecting sampling points will be requested.

2. TOC and DOC - Both TOC and DOC will be required for the water samples generated from this task.

3. TOC - The TOC requirement has been deleted from the sediment samples.

Task 13. Perform Ground Water Sampling

The changes for this task are found in the sampling plan. Further, these changes are the same as for other water sample changes mentioned involving TOC and DOC requirements.

JTB:mr

cc: John T. Barndt
P. Steven Young
Jonathan Freese, CH2M Hill